

Welcome to the weekly newsletter from the Center for Addiction Research! Each newsletter includes highlights from addiction in the news topics, active funding opportunities offered by NIDA/NIAAAA, and information about any new publications from CAR members. Please email Jen Rowe (roweji@ucmail.uc.edu) to change your communication preferences. Thank you.

Thank you for your interest in the Center for Addiction Research - our mission is to accelerate scientific progress in the prevention and treatment of substance use disorders and their consequences by fostering research collaborations across: 1) UC departments, colleges, and centers including Cincinnati Children's Hospital Medical Center; 2) Local, regional, and state community and governmental partners; and 3) Other academic institutions and industry."



UC/ Regional News

Center for Addiction Research Upcoming Summer Speaker Series

Back by popular demand, the Center for Addiction Research will hold its final 2023 virtual Summer Speaker Series event, Wednesday, August 9 at 12pm on “Examining Substance Use Around the Timing of Pregnancy from a Health Equity and Patient-Centered Perspective”. The series is sponsored by Center for Clinical & Translational Science & Training. [\(pdf invitation attached\)](#)

>> Register for the presentation

Overdose treatment boxes available at rest area

IRONDALE — As part of its daily mission to save lives whenever needed, the TEMS Joint Ambulance District has been working with others to make it possible for non-medical personnel to do the same. Clark Crago, director of the ambulance service, said the agency has installed a special box in each of the restrooms of the rest area near state Routes 7 and 213 with materials anyone can use to help a person suffering from an opioid overdose. Inside each NaloxBox are nasal sprays containing two doses of 4 milligrams each of naloxone. Commonly sold as Narcan, the drug is used to reverse the effects of an opioid overdose. The rest area was chosen because such overdoses have occurred there...[\(intervention facilitated by the Ohio Healing Communities Study, co-Principal Investigator and CAR Director, Dr. T. John Winhusen\)](#)

Ohio, Kentucky, and Indiana among top 10 states with most drug overdose deaths

CINCINNATI (WKRC) - Ohio, Kentucky, and Indiana are getting hit harder by the opioid epidemic than over 80 percent of the country. The Centers for Disease Control and Prevention provided a ranking of the states with the most deaths from drug overdoses. It's based on the most recent statistics, which were recorded in 2021, and the rate is the number of deaths per 100,000 people. Kentucky ranked fourth on the list with a rate of 55.6, and Ohio (48.1) and Indiana (43) were not far behind at seventh and tenth place. West Virginia had the highest death rate at 90, and Nebraska had the lowest rate at 11.4. The national average is 32.

Xenia Municipal Court certified to begin addiction recovery docket

Xenia Municipal Court has been certified by the Ohio Supreme Court to begin an addiction recovery docket, giving adult offenders in Greene County another path to turning their lives around. The court's specialized docket was approved by the Ohio Supreme Court on July 19. The court's initial certification lasts until the end of January, after which it must be renewed every year. Up to 80% of cases that come before Xenia Municipal Court involve drugs or alcohol in some way, Xenia Municipal Court Judge David McNamee previously told the Dayton Daily News. The ultimate goal of the specialized docket is to reduce recidivism, and to help people get back on their feet. "I'm proud of the court, and I'm...

National News

Alcohol kills men more often, but women's death rates are catching up

Women are catching up to men when it comes to dying from alcohol abuse, a new study finds. Although men are nearly three times more likely to die from alcohol abuse than women, such deaths among women are rising at a faster rate. Between 2018 and 2020, alcohol-related deaths rose 12.5% among men, but jumped nearly 15% among women. "It's really concerning," said lead researcher Dr. Ibraheem Karaye, an assistant professor of population health at Hofstra University in Hempstead, N.Y. For the study, he and his colleagues examined data on nearly 606,000 alcohol-related deaths between 1999 and...

High blood pressure medication spironolactone may help cure alcoholism

WASHINGTON — Doctors may have a promising new weapon in the fight against alcoholism — a medicine commonly used to treat heart problems and high blood pressure. The drug is called spironolactone, and researchers at the National Institutes of Health (NIH) and Yale School of Medicine say it reduces alcohol consumption in mice, rats, and humans. Previous research suggests that mineralocorticoid receptors, which help regulate fluid and electrolyte balance in the body, could be linked to alcohol use and cravings. "Combining findings across three species and different types of research studies, and...

Routinely drinking alcohol may raise blood pressure even in adults without hypertension

Even in adults without hypertension, blood pressure readings may climb more steeply over the years as the number of daily alcoholic drinks rise, according to an analysis of seven international research studies published today in *Hypertension*, an American Heart Association journal. With the statistical power of seven international research studies, this analysis confirms for the first time there was a continuous increase in blood pressure measures in both participants with low and high alcohol intake. Even low levels of alcohol consumption were associated with detectable increases in blood...

Hazardous drinking in young adults: Personal characteristics can help identify effective interventions

Young adults whose drinking lands them in the emergency room respond differently to different interventions to reduce their hazardous drinking, and those differences may be driven by certain personal characteristics. In a study published in *Alcohol: Clinical and Experimental Research*, researchers found that older people with greater severity and acknowledgment of alcohol problems tended to benefit more than others from brief motivational interviewing. Less intensive interventions showed greater benefit for some younger people. The findings may help identify and tailor...

Two-Pronged Approach Needed in Alcohol-Associated Hepatitis

Patients with severe alcohol-associated hepatitis (AH) need treatment for both their liver disease and their underlying alcohol use disorder (AUD), concludes a review discussing care for patients recently hospitalized. "Probably the biggest thing I would want providers to take away from the review is to remember that these patients are likely to carry a dual diagnosis," said lead author Akshay Shetty, MD, Pfleger Liver Institute, UCLA Medical Center, Los Angeles, California. "It is important to address the liver disease, because it probably carries the biggest mortality and morbidity risk in the short term, but we have..."

Marijuana addiction is real. Those struggling often face skepticism.

Courtney took her first marijuana puffs at 17. Two decades later, she was raising a toddler son and hiding her dependence from most family members. She would light her pipe more than a dozen times a day, sneaking to the garage of her Missouri home while her son napped. She still loves the earthy smell. But weed long ago stopped making her giggly. It was not unusual for the 37-year-old to lose her train of thought mid-conversation or zone out while playing with her son. Many times, Courtney said, she tried to quit, flushing her stash and dumping her pipe to no avail, except for the nine months she was pregnant. Courtney...

In states with legalized cannabis, frequent cannabis use is more common in young adults who are not in college

An Oregon State University study has found that in states where recreational cannabis has been legalized, young adults not in college more often became frequent users of the drug than their college-enrolled peers. After state legalization, young adults not in college were also more likely to meet the criteria for cannabis use disorder, meaning they continued to use the drug despite problems it caused in their lives. The study, published in the American Journal of Preventive Medicine, used data from the National Survey on Drug Use and Health from 2008-2019, which surveyed college-eligible young adults...

Can field sobriety tests identify drivers under the influence of cannabis?

Road safety is a critical issue in an era of increasing cannabis legalization. Cannabis is known to impair reaction time, decision-making, coordination and perception—skills necessary for safe driving. In the last three years, California has seen a 62% increase in the number of fatal crashes involving drug-related impairment. Unlike the association of blood alcohol concentrations with impairment, tetrahydrocannabinol (THC) blood concentrations do not correlate with driving performance. Law enforcement officers instead rely on behavioral tests to determine a driver's level of impairment. However, these field...

Only four nations doing enough to stub out smoking: WHO

Only four countries—Brazil, Mauritius, the Netherlands and Turkey—have adopted all the anti-tobacco measures recommended in the fight against the "deadly scourge" of smoking, the World Health Organization said Monday. In a fresh report, the UN health agency urged countries to scale up their use of recognized measures to reduce tobacco use, including enforcing advertising bans, plastering health warnings on cigarette packages, raising tobacco taxes and providing assistance to those who want to quit. It said Mauritius and the Netherlands had now joined Brazil and Turkey in implementing...

New regulations mean warnings like 'poison in every puff' will soon be on every cigarette

A fresh set of Health Canada regulations that will require warning labels on individual cigarettes is set to come into effect on Tuesday. The move, announced earlier this year, makes Canada the first country in the world to take that step in the ongoing effort to help smokers kick the habit and deter potential puffers from picking it up. The wording that will eventually be on every cigarette, written in English and French on the paper around the filter, ranges from warnings about harming children and damaging organs to causing impotence and leukemia. "Poison in every puff," cautions one. The labels will...

Study suggests millions of long-term smokers have lung disease that defies diagnosis

Millions of Americans with tobacco-related lung disease have symptoms that do not fit any existing tobacco-related disease criteria—including the most common of those, chronic obstructive pulmonary disease (COPD)—according to a new study led by researchers at UC San Francisco. In a study published Aug. 1, 2023, in the Journal of the American Medical Association (JAMA), a research team found that half of the participants with extensive tobacco exposure had a persistently high level of respiratory symptoms, including shortness of breath, daily cough and phlegm, and decreased ability to...

Vaping Might Beat Nicotine Patches in Helping Pregnant Women Quit Smoking

TUESDAY, Aug. 1, 2023 (HealthDay News) – It's well known that smoking in pregnancy can harm a developing baby's growth. Now, a new study suggests that using e-cigarettes may be more effective than traditional nicotine replacement therapy, such as patches, in helping pregnant women kick the habit and reduce the risk of low birthweight. "E-cigarettes seem more effective than nicotine patches in helping pregnant women to quit smoking and because of this, they seem to also lead to better pregnancy outcomes," said researcher Peter Hajek, director of the health and lifestyle research unit at...

Canada 'falling behind' in efforts to lessen teen vaping, researcher says

A UBC Okanagan researcher says Canada is falling behind in developing intervention programs to stop young people from beginning to vape. Dr. Laura Struik, an Assistant Professor with UBCO's School of Nursing and a Canadian Cancer Society Emerging Scholar, researches nicotine dependence, cancer prevention and behavior change using digital technologies. Dr. Struik is disheartened by the results from the recent Health Canada's Canadian Student Tobacco, Alcohol and Drugs Survey, which states that 29% of Canadian students from grades 7 to 12 have tried an e-cigarette, and 17%...

Children are increasingly exposed to e-cigarettes on display in UK shops, study reports

Children are increasingly exposed to e-cigarettes on display in shops, and are more likely to buy from small shops, according to a new study. The analysis, by researchers from Imperial College London, used data from the annual ASH survey of youth vaping, collected over five years from 2018 to 2022. The work is published in the journal Tobacco Control. Comparing 12,445 responses to this online survey, the researchers found increases in the proportion of children reporting that they had seen e-cigarettes on display in shops. By contrast, the children reported seeing fewer tobacco cigarettes for sale...

Remote Urine Drug Screening Feasible for Opioid Use Disorder, Study Shows

Remotely administered urine drug screening was found to be feasible in patients with opioid use disorder (OUD) who were receiving buprenorphine in remote care settings, according to a cohort study. Of more than 3,000 patients in the study cohort, 83.3% completed a urine drug screening within the first 30 days (90.0% among protocol-adherent patients and 67.0% among protocol-nonadherent patients) of their inclusion in a virtually managed OUD treatment program, reported Arthur Robin Williams MD, MBE, chief medical officer of Ophelia Health in New York City, a telehealth-based opioid treatment...

FDA Takes Steps to Facilitate Innovation for Devices Intended to Treat Opioid Use Disorder

Today, the U.S. Food and Drug Administration announced new steps to help facilitate innovation in devices intended to treat opioid use disorder (OUD). The draft guidance, to help sponsors design clinical studies to evaluate these devices, furthers the FDA's Overdose Prevention Framework goal of advancing evidence-based treatment for those with substance use disorders. "The FDA continues to seek new ways to advance science to address the public health challenges that families and communities across the country face," said FDA Commissioner Robert M. Califf, M.D. "We are committed to helping..."

FDA Approves Second Over-the-Counter Naloxone Nasal Spray Product

Today, the U.S. Food and Drug Administration approved RiVive, 3 milligram (mg) naloxone hydrochloride nasal spray for over-the-counter (OTC), nonprescription use for the emergency treatment of known or suspected opioid overdose. This is the second nonprescription naloxone product the agency has approved, helping increase consumer access to naloxone without a prescription. The timeline for availability and the price of this nonprescription product will be determined by the manufacturer. Drug overdose persists as a major public health issue in the United States. In the 12-month period ending...

Addiction Tx, Better Border Control Dominate House Hearing on Drug Policy Office

When it comes to solving the opioid addiction problem in the U.S., is decreasing the demand for the drugs or stopping the supply more important? Differing opinions were on display at a House Oversight and Accountability Committee hearing Thursday on funding the White House Office of National Drug Control Policy (ONDCP). "We need to understand from the ONDCP what is working, what isn't working, and what can be improved by legislation, to prevent illicit drugs from coming into our country, entering our communities, and poisoning our families, friends, and neighbors," said Committee Chair...

Study identifies pitfalls, solutions for using AI to predict opioid use disorder

More than 10 million Americans misused prescription opioids in 2019, and nearly 75 percent of drug overdose deaths in 2020 involved an opioid. According to the United States Centers for Disease Control and Prevention, overdose deaths involving opioids, including prescription opioids, heroin and synthetic opioids such as fentanyl, have increased eightfold since 1999. As scientists and the health care community search for effective ways to mitigate the opioid epidemic, rapid advances in machine learning are promising. Access to data and machine learning frameworks has led to the development of machine...

Earlier transfer to specialized care associated with better outcomes for neonates with opioid withdrawal syndrome

A new study sheds light on two factors that affect the outcomes for infants with neonatal opioid withdrawal syndrome (NOWS). The article, "Transfer timing and the length of medication weaning for neonatal opioid withdrawal," was published open access by Hospital Pediatrics on May 15, 2023. The authors are a multidisciplinary team of New Jersey researchers and clinicians from Kessler Foundation and Children's Specialized Hospital. Opioid abuse remains a major public health problem, with an increasing number of newborns affected by NOWS, a complex syndrome associated with increased...

Oxycodone prescriptions after delivery not linked to longer-term opioid use compared to codeine

Postpartum prescriptions for oxycodone were not associated with increased risk of longer-term opioid use compared to codeine prescriptions, according to new research published in CMAJ (Canadian Medical Association Journal). Over the last 10 years, there has been a shift to fewer codeine prescriptions and an increase in prescriptions for stronger opioids, such as hydrocodone, hydromorphone and oxycodone for patients postpartum. "This occurred in part because of safety concerns related to the use of codeine while breastfeeding, which have since been questioned," writes Dr. Jonathan Zipursky...

Study provides clearer view of newborns with opioid withdrawal

A new study into the race and socio-demographics of newborns with symptoms of opioid withdrawal shows that it is disproportionately higher among white newborns whose mothers are Medicaid enrollees and have the lowest income, compared with Black and Hispanic infants. The withdrawal condition is called neonatal abstinence syndrome, or NAS. The study team, led by Keith A. Dookeran in UWM's Zilber College of Public Health, confirms similar racial variance found in previous studies of NAS data in the U.S. But Dookeran's research team dug deeper into more recent data, examining trends across...

Opioid addiction starts at the ER, according to studies

Legitimate prescriptions of opioids as painkillers are a contributing factor in long-term addiction to these substances. This is what Sarah Eichmeyer of Bocconi's Department of Economics and Jonathan Zhang of McMaster University in Canada found and described in two recent papers, "Pathways into Opioid Dependence: Evidence from Practice Variation in Emergency Departments," published on the American Economic Journal, and "Primary care providers' influence on opioid use and its adverse consequences," which appeared in the Journal of Public Economics. The so-called opioid crisis is a...

A wasted chance to fight addiction? Opioid settlement cash fills a local budget gap

Over the past two years, as state attorneys general agreed to more than \$50 billion in legal settlements with companies that made or sold opioids, they vowed the money would be spent on addiction treatment and prevention. They were determined to avoid the misdirection of the tobacco settlement of the 1990s, in which billions of dollars from cigarette companies went to plug budget gaps instead of funding programs to stop or prevent smoking. But in at least one California county, history is repeating itself. And across the country, there are concerns about the lack of transparency...

\$11 million awarded to family of woman who died after taking kratom, an opioid-like herb

The family of a woman who died after taking kratom, an herb with opioid-like effects, was awarded \$11 million last week in a wrongful death lawsuit against a company that sold the substance. Krystal Talavera, a 39-year-old mother of four who lived in Florida, collapsed in her kitchen while preparing breakfast for her family in June 2021. By her side was an open package of kratom with a handwritten "Space Dust" label. The Palm Beach County Coroner attributed Talavera's death to "acute mitragynine intoxication." Mitragynine, one of two main chemical compounds in kratom, produces classic opioid-like...

Taking Kratom Claimed Her Son's Life. Now She and Others Are Warning of the Dangers

THURSDAY, Aug. 3, 2023 (HealthDay News) -- J.D. Butler was planning a future with his girlfriend at his favorite New York City restaurant when that future came to a sudden, crushing halt. "They were planning on when she was moving in and arranging floor plans on the table, with where the furniture was going to go," said his mother, Karen Butler, a lifelong New York resident. "And he had a grand mal seizure, and then his heart stopped." A subsequent autopsy revealed that J.D.'s fatal seizure was brought on by mitragynine toxicity, caused by long-term ingestion of the widely used herbal...

Opioids and cocaine are a deadly combination, and 'polydrug' deaths are rising

Drug deaths in the US involving both opioids and cocaine have increased dramatically in the past decade, according to a new report from the Centers for Disease Control and Prevention (CDC). Drug-related deaths associated with stimulants, such as cocaine, methamphetamine, amphetamine and methylphenidate, doubled between 2011 and 2021. And deaths associated with using both stimulants and opioids, such as heroin, morphine, fentanyl and methadone, increased by about seven-fold over the same period. The biggest increases have been seen since about 2019. Cocaine and methamphetamine are stimulant...

Researchers Explore New Nonaddictive Means of Fighting Pain

THURSDAY, Aug. 3, 2023 (HealthDay News) -- New research shows that an experimental drug fine-tuned to a specific pain pathway can ease post-surgery aches, a finding that may eventually offer an alternative to highly addictive opioids. The pill, known for now as VX-548, targets a particular sodium channel that is active only in the body's peripheral sensory nerves, where it helps transmit pain signals to the brain. The idea is that inhibiting the channel might ease pain without serious systemic side effects -- including the risk of addiction and abuse associated with opioids. In an early...

Funding Opportunities



[RFA-DA-25-001](#)

[Addressing HIV in Highest Risk Sexual and Gender Minorities \(R01 Clinical Trial Optional\)](#)

[RFA-DA-25-002](#)

[Addressing HIV in highest risk sexual and gender minorities \(R34 Clinical Trial Required\)](#)

[NOT-DA-25-026](#)

[Notice of Special Interest \(NOSI\): Role of social function on SUD treatment and outcomes](#)

[NOT-DA-24-011](#)

[Notice of Special Interest \(NOSI\): HEAL Initiative: Leveraging Inpatient Medical or Surgical Hospitalizations to Improve Outcomes for People Who Use Drugs](#)

[NOT-DA-24-008](#)

[Notice of Special Interest \(NOSI\): Supporting Recovery-Oriented, Family-Centered Care for Pregnant, Postpartum, and Parenting Women with Opioid Use Disorder](#)

[NOT-DA-23-030](#)

[Notice of Research Opportunity Announcements for the HEAL Initiative: Native Collective Research Effort to Enhance Wellness \(N CREW\): Addressing Overdose, Substance Use, Mental Health, and Pain Program](#)

[PAR-23-240](#)

[Alcohol and Other Substance Use Research Education Programs for Health Professionals \(R25 Clinical Trial Not Allowed\)](#)

Other Funding Opportunities:

[Third Frontier Research Incentive Funding Opportunity - Request for Proposals](#)

Deadline: September 5, 2023 (proposal reviews beginning September 6, 2023)

As part of its mission, the Ohio Department of Higher Education (ODHE) works with institutions of higher education to expand research in areas of priority identified by the state. This research is used to guide policy and develop solutions that address these priorities. The institutions chosen to conduct this research are selected through a competitive process. The recently passed state budget included a provision, **Research Incentive Third Frontier**, allocating **\$8M** to ODHE to be used by the Chancellor to advance collaborative research at institutions of higher education. Per the language, the Chancellor has discretion to target these funds toward the following research areas and initiatives:

- Research Regarding the Reduction of Infant Mortality
- Research Regarding Opiate Addiction
- Cyber Security Initiatives and Programs
- Support of the I-Corps@Ohio Program
- Support of the Ohio Innovation Exchange Program

Q&A information can be obtained at this link [Grant Resources & Requests for Proposals \(RFPs\) | The Ohio Department of Higher Education](#).

CAR Member New Publications

Implementation Facilitation to Promote Emergency Department–Initiated Buprenorphine for Opioid Use Disorder

Gail D’Onofrio, MD, MS; E. Jennifer Edelman, MD, MHS; Kathryn F. Hawk, MD, MHS; Marek C. Chawarski, PhD; Michael V. Pantalon, PhD; Patricia H. Owens, MS; Shara H. Martel, MPH, MS; Richard Rothman, MD, PhD; Mustapha Saheed, MD; Robert P. Schwartz, MD; Ethan Cowan, MD; Lynne Richardson, MD; Edwin Salsitz, MD; Michael S. Lyons, MD, MPH; Caroline Freiermuth, MD; Christine Wilder, MD; Lauren Whiteside, MD, MPH; Judith I. Tsui, MD, MPH;

Jared W. Klein, MD, MPH; Edouard Coupet, MD, MHS; Patrick G. O'Connor, MD, MPH; Abigail G. Matthews, PhD; Sean M. Murphy, PhD; Kristen Huntley, PhD; David A. Fiellin, MD

JAMA Network Open

DOI: [10.1001/jamanetworkopen.2023.5439](https://doi.org/10.1001/jamanetworkopen.2023.5439)

ABSTRACT

Importance: Emergency department (ED)-initiated buprenorphine for the treatment of opioid use disorder (OUD) is underused.

Objective: To evaluate whether provision of ED-initiated buprenorphine with referral for OUD increased after implementation facilitation (IF), an educational and implementation strategy.

Design, Setting, and Participants: This multisite hybrid type 3 effectiveness-implementation nonrandomized trial compared grand rounds with IF, with pre-post 12-month baseline and IF evaluation periods, at 4 academic EDs. The study was conducted from April 1, 2017, to November 30, 2020. Participants were ED and community clinicians treating patients with OUD and observational cohorts of ED patients with untreated OUD. Data were analyzed from July 16, 2021, to July 14, 2022.

Exposure: A 60-minute in-person grand rounds was compared with IF, a multicomponent facilitation strategy that engaged local champions, developed protocols, and provided learning collaboratives and performance feedback.

Main Outcomes and Measures: The primary outcomes were the rate of patients in the observational cohorts who received ED-initiated buprenorphine with referral for OUD treatment (primary implementation outcome) and the rate of patients engaged in OUD treatment at 30 days after enrollment (effectiveness outcome). Additional implementation outcomes included the numbers of ED clinicians with an X-waiver to prescribe buprenorphine and ED visits with buprenorphine administered or prescribed and naloxone dispensed or prescribed.

Results: A total of 394 patients were enrolled during the baseline evaluation period and 362 patients were enrolled during the IF evaluation period across all sites, for a total of 756 patients (540 [71.4%] male; mean [SD] age, 39.3 [11.7] years), with 223 Black patients (29.5%) and 394 White patients (52.1%). The cohort included 420 patients (55.6%) who were unemployed, and 431 patients (57.0%) reported unstable housing. Two patients (0.5%) received ED-initiated buprenorphine during the baseline period, compared with 53 patients (14.6%) during the IF evaluation period ($P < .001$). Forty patients (10.2%) were engaged with OUD treatment during the baseline period, compared with 59 patients (16.3%) during the IF evaluation period ($P = .01$). Patients in the IF evaluation period who received ED-initiated buprenorphine were more likely to be in treatment at 30 days (19 of 53 patients [35.8%]) than those who did not 40 of 309 patients (12.9%; $P < .001$). Additionally, there were increases in the numbers of ED clinicians with an X-waiver (from 11 to 196 clinicians) and ED

visits with provision of buprenorphine (from 259 to 1256 visits) and naloxone (from 535 to 1091 visits).

Conclusions and Relevance: In this multicenter effectiveness-implementation nonrandomized trial, rates of ED-initiated buprenorphine and engagement in OUD treatment were higher in the IF period, especially among patients who received ED-initiated buprenorphine.

Trial Registration: ClinicalTrials.gov Identifier: [NCT03023930](https://clinicaltrials.gov/ct2/show/study/NCT03023930)

Neonatal Opioid Withdrawal Syndrome: An Update on Developmental Outcomes

Kristen L Benninger, Jennifer M McAllister, Stephanie L Merhar

Clinics in Perinatology

DOI: [10.1016/j.clp.2022.10.007](https://doi.org/10.1016/j.clp.2022.10.007)

ABSTRACT

Infants and children with prenatal opioid exposure generally have development within the normal range; however, they seem to be at risk for behavioral problems and for lower scores on cognitive, language, and motor assessments than children without prenatal opioid exposure. It is as of yet unclear whether prenatal opioid exposure itself causes issues with development and behavior, or whether it is simply correlated, due to other confounding factors.

Keywords: Developmental outcomes; Neonatal abstinence syndrome (NAS); Neonatal opioid withdrawal syndrome (NOWS); Neurodevelopment; Opioid.

The Influence of Mediators on the Relationship Between Antenatal Opioid Agonist Exposure and the Severity of Neonatal Opioid Withdrawal Syndrome

Lori A. Devlin, Zhuopei Hu, Songthip Ounpraseuth, Alan E. Simon, Robert D. Annett, Abhik Das, Janell F. Fuller, Rosemary D. Higgins, Stephanie L. Merhar, P. Brian Smith, Margaret M. Crawford, Lesley E. Cottrell, Adam J. Czynski, Sarah Newman, David A. Paul, Pablo J. Sánchez, Erin O. Semmens, M. Cody Smith, Bonny L. Whalen, Jessica N. Snowden & Leslie W. Young for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network and the NIH Environmental influences on Child Health Outcomes (ECHO) Program Institutional Development Awards States Pediatric Clinical Trials Network

Maternal and Child Health Journal

DOI: [10.1007/s10995-022-03521-3](https://doi.org/10.1007/s10995-022-03521-3)

ABSTRACT

Objectives: (1) To evaluate the direct (un-mediated) and indirect (mediated) relationship between antenatal exposure to opioid agonist medication as treatment for opioid use disorder (MOUD) and the severity of neonatal opioid withdrawal syndrome (NOWS), and (2) to understand the degree to which mediating factors influence the direct relationship between MOUD exposure and NOWS severity.

Methods: This cross-sectional study includes data abstracted from the medical records of 1294 opioid-exposed infants (859 MOUD exposed and 435 non-MOUD exposed) born at or admitted to one of 30 US hospitals from July 1, 2016, to June 30, 2017. Regression models and mediation analyses were used to evaluate the relationship between MOUD exposure and NOWS severity (i.e., infant pharmacologic treatment and length of newborn hospital stay (LOS)) to identify potential mediators of this relationship in analyses adjusted for confounding factors.

Results: A direct (un-mediated) association was found between antenatal exposure to MOUD and both pharmacologic treatment for NOWS (aOR 2.34; 95%CI 1.74, 3.14) and an increase in LOS (1.73 days; 95%CI 0.49, 2.98). Delivery of adequate prenatal care and a reduction in polysubstance exposure were mediators of the relationship between MOUD and NOWS severity and as thus, were indirectly associated with a decrease in both pharmacologic treatment for NOWS and LOS.

Conclusions for practice: MOUD exposure is directly associated with NOWS severity. Prenatal care and polysubstance exposure are potential mediators in this relationship. These mediating factors may be targeted to reduce the severity of NOWS while maintaining the important benefits of MOUD during pregnancy.

Keywords: Length of stay (LOS); Medication for opioid withdrawal syndrome (MOUD); Neonatal opioid withdrawal syndrome (NOWS); Pharmacologic treatment; Polysubstance exposure; Prenatal care.

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